

Chemical Engineering Concentration Model Program (Starting Fall 2021)

First Year	Fall (16)	<input type="checkbox"/> 5 Chemistry 101 or 103 General Chemistry I (F,S) <input type="checkbox"/> 3 Engineering 101 Intro to Engineering Design (F) <input type="checkbox"/> 1 Engineering 181 Graphical Communication Lab (F) <input type="checkbox"/> 4 Mathematics 171 Calculus I (F,S) <input type="checkbox"/> 3 <i>Core Foundations</i> <i>Community and Commitments</i>	★ ENGR 20X - Students must take two out of three of the following courses: ENGR 202* - Statics and Dynamics ENGR 204 - Intro to Circuit Analysis and Electronics with Lab ENGR 205 - Material Science * Course offered as part of the Summer Program in Germany
	Spring (16)	<input type="checkbox"/> 5 Chemistry 102 General Chemistry II (S) <input type="checkbox"/> 4 Mathematics 172 Calculus II (F,S) <input type="checkbox"/> 4 Physics 133 Introductory Physics, Mechanics and Gravity (S) <input type="checkbox"/> 3 <i>Core Comp and Skills</i> <i>Foundational Writing</i>	
* Possibly insert Summer Program in Germany			
Second Year	Fall (16)	<input type="checkbox"/> 4 Engineering 209 Introduction to Conservation Laws and Fluid Mechanics <input type="checkbox"/> 3 Mathematics 270/271 Multivariable Calculus - Math 270 (F only), Math 271 (F,S) <input type="checkbox"/> 4 Physics 235 Introductory Physics: Electricity and Magnetism (F) <input type="checkbox"/> 2 Computer Science 104 Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH) <input type="checkbox"/> 3 <i>Core Foundations</i> <i>Foundations of Christianity I</i> <input type="checkbox"/> 0 Engineering 295 Internship Workshop <input type="checkbox"/> 1 Engineering 184 Sustainability Challenges (F) (Required for students seeking Sustainability Designation)	
	Spring (17)	<input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Mathematics 231 Differential Equations with Linear Algebra (F,S) <input type="checkbox"/> 3 <i>ECON 151/221/232/233</i> <i>Core Knowledge and Understanding (see Core Options sheet)</i> <input type="checkbox"/> 2 <i>Statistics 241</i> <i>Engineering Statistics (S)</i> <input type="checkbox"/> 0 Engineering 294 Engineering Seminar (does not require registration in advance)	
* Possibly insert Summer Program in Germany			
Third Year	Fall (17)	<input type="checkbox"/> 4 Engineering 303 + 303L Chem. Engr. Principles & Thermodynamics (F) <input type="checkbox"/> 4 Chemistry 241 + 241L Organic Chemistry I (F) or 240 + 240L Fund. of Organic Chemistry (F) <input type="checkbox"/> 4 Chemistry 351 + 351L Physical Chemistry I (F) <input type="checkbox"/> 2 <i>Core Foundations</i> <i>Foundations of Christianity II</i> <input type="checkbox"/> 2 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement</i> <input type="checkbox"/> 1 Engineering 384 Sustainability Analysis (Required for students seeking Sustainability Designation)	
	Spring (18)	<input type="checkbox"/> 4 Engineering 312 Chemical Engineering Thermodynamics (S) <input type="checkbox"/> 4 Engineering 330 Fluid Flow & Heat Transfer (S) <input type="checkbox"/> 4 Chemistry 242 + 242L Organic Chemistry II (S) OR Chemistry 324L plus (Chemistry 320 OR 321) Biochemistry & Lab <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i> <i>Oral Rhetoric for Engineers (F,S)</i>	<i>Pink listings (core humanities courses) may be taken in any semester. ECON should be taken prior to BUS 357.</i>
Internship Experience (ENGR 385 Optional)			
Fourth Year	Fall (17)	<input type="checkbox"/> 4 Engineering 331 Kinetics/Reactor Design (F) <input type="checkbox"/> 4 Engineering 335 Mass Transfer & Staging Operations (F) <input type="checkbox"/> 2 Engineering 339 Senior Design Project (F) - Core Contemporary Challenges <input type="checkbox"/> 4 <i>Elective: Advanced Science (2 SH minimum)</i> <input type="checkbox"/> 2 Business 357 Business Aspects for Engineers (F) <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement</i>	See University Catalog or Elective Options sheet for courses allowed for the orange and green categories. Classes shaded in light brown are optional.
	Spring (16)	<input type="checkbox"/> 2 Engineering 337 Chemical Engineering Laboratory (S) <input type="checkbox"/> 4 Engineering 340 Senior Design Project (S) <input type="checkbox"/> 4 Engineering 342 Process Control (S) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 2 <i>Core Knowledge and Understanding (see Core Options sheet)</i> <input type="checkbox"/> 0 Engineering 394 Engineering Seminar (does not require registration in advance)	

Other Requirements

- 0-8 *Core Comp and Skills: World Languages I (3 years in HS with B or better)*
- 0-3 *Engaged Citizenship Commitment Tag: Diversity and Difference*
- 0-3 *Engaged Citizenship Commitment Tag: Environmental Sustainability*
- 0-3 *Engaged Citizenship Commitment Tag: Global Regions and Cultures*

Revised Sept 2023